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ALEXANDRIA, VA 22314

EXAMINER

RUTTEN, JAMES D

ART UNIT	PAPER NUMBER
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2192

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/03/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/03/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/713,195

Applicant(s)

SUGISHITA ET AL.

Examiner

J. Derek Rutten

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/9/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-38 have been examined.

Information Disclosure Statement

2. The information disclosure statements filed 8/19/05 and 2/17/04 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because they do not contain:

- a column that provides a space next to each document listed in order to permit the examiner to enter his or her initials
- each page of the list must clearly identify the application number of the application in which the IDS is being submitted
- each page of the list include a heading that clearly indicates that the list is an IDS

It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Drawings

3. Figure 37 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (as described in the specification page 3 lines 15-20). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office

action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitations "the order," "the number," and "said other one or more processing units" in lines 12-13 of the claim (i.e. lines 17-18 of page 55). There is insufficient antecedent basis for these limitations in the claim. The appearance of these limitations with respect to each other in lines 12-13 of the claim makes interpretation difficult. Claims 2-29 are rejected as being dependent upon a rejected base claim. For the purpose of further examination, the phrase "in the order of the number of said other one or more processing units through which said control unit communicates with each of said processing units" will be interpreted as --in an order through which said control unit communicates with each of said processing units--.

7. Claim 30 recites the limitations "the order" and "the number" in lines 6 and 7 of the claim (i.e. lines 3 and 4 of page 66). There is insufficient antecedent basis for these limitations

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in the claim. Claims 31-38 are rejected as being dependent upon a rejected base claim. For the purpose of further examination, these limitations will be interpreted as --an order--, and --a number--, respectively.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 5, 7, 10-12, 21, 22, 24-27, 30, and 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 7,142,321 to Tomita et al. (hereinafter “Tomita”).

In regard to claim 1, Tomita discloses:

An image forming apparatus (see FIG. 3), comprising:

one or more processing units wherein each processing unit processes data for forming an image; See Tomita column 9 lines 12-14, e.g. “image reader (IR) unit 160 and a printer unit 180.”

a control unit that communicates with each of said processing units directly, or indirectly through another one or more of said processing units; See Tomita column 9 lines 22, e.g. “control unit 100.”

an update program acquiring unit that acquires an update program for updating programs of said processing units and a program of said control unit; and See Tomita

column 2 lines 52-53, e.g. “second reception unit.” Also see column 21 line 65, e.g. “firmware is for the control module.”

a program updating unit that updates the programs of said processing units [in an order through which said control unit communicates with each of said processing units]. See Tomita column 2 lines 53-57, e.g. “firmware rewriting unit,” also “modifying unit.” Also see FIG.16, elements S221, S224, S228, and S232. Updates are installed according to an order of communication.

In regard to claim 2, the above rejection of claim 1 is incorporated. Tomita further discloses: *wherein said program updating unit determines the order in which the programs of said processing units are updated thereby to create update order information based on the update program acquired by said update program acquiring unit.* See column 2 lines 55-57.

In regard to claim 3, the above rejection of claim 2 is incorporated. Tomita further discloses: *wherein said program updating unit correlates the order in which the programs of said processing units are updated with names of the programs.* See FIG. 12A.

In regard to claim 5, the above rejection of claim 1 is incorporated. Tomita further discloses: *wherein said control unit has one or more application programs related*

to image forming processing; and said program updating unit can update the application programs individually. See column 12 lines 58-63.

In regard to claim 7, the above rejection of claim 1 is incorporated. Tomita further discloses: *a communication unit for connecting the image forming apparatus to a network; wherein said update program acquiring unit acquires the update program using said communication unit.* See FIG. 5 element 210.

In regard to claim 10, the above rejection of claim 7 is incorporated. Tomita further discloses *executing a secondary program while a primary program is updated.* See column 18 line 65 – column 19 line 5, e.g. “firmware rewriting program.”

In regard to claim 11, the above rejection of claim 10 is incorporated. Tomita further discloses: *wherein said control unit, when the primary program thereof is being updated, executes the secondary program stored in the second memory region of a volatile memory.* See column 18 line 65 – column 19 line 5.

In regard to claim 12, the above rejection of claim 11 is incorporated. Tomita further discloses: *the secondary program is smaller in size than the primary program.* See column 18 line 65 – column 19 line 5 in view of column 7 lines 16-24.

In regard to claim 21, the above rejection of claim 7 is incorporated. Tomita further discloses: *wherein said program updating unit creates an update management table including information related to the acquired update program. See FIG. 12A.*

In regard to claim 22, the above rejection of claim 21 is incorporated. Tomita further discloses: *wherein the update management table includes module IDs that specify the acquired update program. See FIG. 12A.*

In regard to claim 24, the above rejection of claim 7 is incorporated. Tomita further discloses: *an update result information creating unit that creates update result information indicating results of the update of the programs; and an update result outputting unit that outputs the update results based on the update result information. See column 21 lines 24-27.*

In regard to claim 25, the above rejection of claim 24 is incorporated. Tomita further discloses: *wherein said update result outputting unit either prints the update results, transmits an e-mail message indicating the update results, or displays a screen indicating the update results. See column 21 lines 48-52.*

In regard to claim 26, the above rejection of claim 24 is incorporated. Tomita further discloses: *wherein the update result information includes at least one of the version of a program before update, the version of the program after update, the date and*

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time the program is updated, and whether the program is updated successfully. See column 21 lines 48-52.

In regard to claim 27, the above rejection of claim 24 is incorporated. Tomita further discloses: *wherein said update result information creating unit stores the update result information in a non-volatile storage unit.* See column 21 lines 39-41.

In regard to claim 30, Tomita discloses:

A method of updating a plurality of programs for an image forming apparatus, (see FIG. 16) comprising the steps of:

acquiring an update program for updating the programs; and See FIG. 15 elements S202 and S207. Input is received and determined to be an update program.

updating each of the programs in the order of the number of processing units through which a control unit and the processing unit in which each program is installed communicate with each other. See FIG.16, elements S221, S224, S228, and S232. An order of communication is determined and updates are installed accordingly.

In regard to claims 33-35, the above rejection of claim 30 is incorporated. All further limitations have been addressed in the above rejection of claims 24-26, respectively.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 2 above, and further in view of U.S. Patent 6,857,121 to Wadt (hereinafter "Wadt").

In regard to claim 4, the above rejection of claim 2 is incorporated. Tomita does not expressly disclose: *wherein the update order information includes information indicating update status*. However, Wadt teaches using update status. See Abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Wadt's update status with Tomita's order information in order to provide reliability as suggested by Wadt (see Abstract).

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 1 above, and further in view of U.S. Patent 5,276,877 to Friedrich et al. (hereinafter "Friedrick").

In regard to claim 6, the above rejection of claim 1 is incorporated. Tomita further discloses: *wherein one of said processing units is a display unit that displays information of the image forming apparatus; and said program updating unit updates the*

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program of the display unit See column 10 lines 10-11. Tomita does not expressly disclose: *after the programs of other processing units and the program of said control unit are updated*. However, Friedrich teaches updating a display after other operations are complete. See column 23 lines 64-66. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Friedrich's teaching of display updating with Tomita's ordered updating in order to provide an updated display in response to prior processing as suggested by Friedrich (see column 23 lines 66-68).

13. Claims 8, 9, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claims 7 and 30 above, and further in view of U.S. Patent Application Publication US 2003/0025927 A1 by Hino et al. (hereinafter "Hino").

In regard to claim 8, the above rejection of claim 7 is incorporated. Tomita further discloses: *wherein said control unit reboots updated ones of said processing units* See column 18 lines 43-45. Tomita does not expressly disclose: *in the order in which said processing units are updated*. However, Hino teaches rebooting after each firmware update. See paragraph [0237]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hino's teaching of rebooting after each update with Tomita's firmware ordering in order to provide updated functionality as soon as it is available instead of waiting for subsequent rewrites as suggested by Hino.

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In regard to claim 9, the above rejection of claim 7 is incorporated. Tomita further discloses: *wherein said control unit reboots updated ones of said processing units*. See column 18 lines 43-45. Tomita does not expressly disclose: *after all to-be-updated programs have been updated*. However, Hino teaches waiting for updates to be completed before rebooting. See paragraph [0237]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Hino's teaching of waiting to reboot with Tomita's rebooting in order to provide proper timing for interrelated updates as suggested by Hino.

In regard to claims 31 and 32, the above rejection of claim 30 is incorporated. All further limitations have been addressed in the above rejection of claim 8.

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 7 above, and further in view of U.S. Patent 5,579,522 to Christeson et al. (hereinafter "Christeson").

In regard to claim 13, the above rejection of claim 7 is incorporated. Tomita does not expressly disclose: *wherein said control unit, when updating the program of one of said processing units, causes the one of said processing units to operate in a restricted mode*. However, Christeson teaches that restricted update modes are used during firmware update. See column 2 line 58 – column 3 line 4. It would have been obvious to one of ordinary skill at the time the invention was made, to use Christeson's restricted

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update modes with Tomita's update in order to prevent rendering the system non-function as suggested by Christeson.

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 7 above, and further in view of U.S. Patent 6,167,567 to Chiles et al. (hereinafter "Chiles").

In regard to claim 14, the above rejection of claim 7 is incorporated. Tomita further discloses rebooting after completing rewriting processing. See column 18 lines 39-48. Tomita does not expressly disclose: *when communication with said processing unit is disconnected*. However, Chiles teaches that processing includes closing communications. See column 16 line 66 – column 17 line 23. It would have been obvious to one of ordinary skill at the time the invention was made, to use Chiles' teaching of closing communication with Tomita's rewriting process in order to determine whether or not processing was successful as suggested by Chiles.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 7 above, and further in view of U.S. Patent 6,883,093 to McBrearty (hereinafter "McBrearty").

In regard to claim 15, the above rejection of claim 7 is incorporated. Tomita does not expressly disclose: *wherein said control unit reboots itself in a predetermined time*

after the last one of updated processing units is rebooted. However, McBrearty teaches waiting for dependent processing units to reboot before rebooting a primary system. See column 7 lines 32-44. It would have been obvious to one of ordinary skill at the time the invention was made, to use McBrearty's rebooting with Tomita's firmware updates in order to update both primary and secondary units as suggested by McBrearty.

17. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 7 above, and further in view of U.S. Patent 6,785,843 to McRae et al. (hereinafter "McRae").

In regard to claim 16, the above rejection of claim 7 is incorporated. Tomita does not expressly disclose: *wherein said control unit stores information indicating a state of the image forming apparatus in a non-volatile storage unit before rebooting itself, and restores the image forming apparatus to the stored state after rebooting itself.* However, McRae teaches storing state information used after rebooting. See column 3 lines 47-52. It would have been obvious to one of ordinary skill at the time the invention was made, to use McRae's teaching of state with Tomita's rebooting in order to avoid the time and computational expense of reestablishing a pre-boot state as suggested by McRae (see column 3 lines 11-26).

In regard to claim 17, the above rejection of claim 16 is incorporated. Tomita further discloses: *wherein the state of the image forming apparatus is a state in which the*

power consumption of the image forming apparatus is reduced. See column 17 lines 45-47.

In regard to claim 18, the above rejection of claim 17 is incorporated. Tomita further discloses: *further comprising a display unit that displays information related to the image forming apparatus; wherein the state of the image forming apparatus is information displayed on the display unit.* See column 21 lines 48-52.

18. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita and McRae as applied to claim 18 above, and further in view of U.S. Patent 6,639,687 to Neilson (hereinafter "Neilson").

In regard to claim 19, the above rejection of claim 18 is incorporated. Tomita does not expressly disclose: *wherein said display unit displays the progress of the update of the programs.* However, Neilson teaches that a display can show the progress of an update. See Abstract. It would have been obvious to one of ordinary skill at the time the invention was made, to use Neilson's progress display with Tomita's display in order to provide complete status information as suggested by Neilson (see column 1 lines 24-28).

19. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita, McRae, and Neilson as applied to claim 19 above, and further in view of U.S. Patent 5,870,086 to Bang (hereinafter "Bang").

In regard to claim 20, the above rejection of claim 19 is incorporated. Tomita does not expressly disclose: *wherein said display unit, if the image forming apparatus is set at the state in which the power consumption thereof is reduced, does not display the progress of the update of the programs*. However, Bang teaches that displays are turned off in power saving modes. See column 1 lines 48-55. It would have been obvious to one of ordinary skill at the time the invention was made, to use Bang's teaching of turning off a display with Tomita's power saving in order to reduce power consumption as suggested by Bang.

20. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 7 above, and further in view of U.S. Patent 6,820,207 to Dawkins et al. (hereinafter "Dawkins").

In regard to claim 23, the above rejection of claim 7 is incorporated. Tomita further discloses: *wherein said processing units include processing units that said control unit can directly reboot* See column 28-32. Tomita does not expressly disclose: *processing units that automatically reboot themselves in response to a request from said control unit*. However, Dawkins teaches rebooting after receiving a request. See column 2 lines 17-20. It would have been obvious to one of ordinary skill at the time the invention was made, to use Dawkins teaching of automatic rebooting upon a request with

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Tomita's rebooting in order to provide an improved method for resetting a processing system as suggested by Dawkins (see column 1 lines 65-67).

21. Claims 28 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claims 7 and 35 above, and further in view of U.S. Patent 5,841,972 to Fanshier (hereinafter "Fanshier").

In regard to claim 28, the above rejection of claim 27 is incorporated. Tomita does not expressly disclose: *wherein said update result information creating unit accumulates the update result information*. However Fanshier teaches that update results are accumulated. See column 6 lines 59-67. It would have been obvious to one of ordinary skill at the time the invention was made, to use Fanshier's results log with Tomita's result information in order to keep a record of results that provides information including reasons for failure as suggested by Fanshier.

In regard to claim 36, the above rejection of claim 35 is incorporated. All further limitations have been addressed in the above rejection of claim 28.

22. Claims 29 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 27 above, and further in view of U.S. Patent 6,389,556 to Qureshi (hereinafter "Qureshi") as applied to claim 37 below, and further in view of U.S. Patent 5,121,113 to Kedge et al. (hereinafter "Kedge").

In regard to claim 29, the above rejection of claim 27 is incorporated. Tomita does not expressly disclose: *wherein said control unit restarts the image forming apparatus after said update result information creating unit stores the update result information in the non-volatile storage unit; and said update result outputting unit outputs the update results after the image forming apparatus is restarted.* However, Qureshi teaches that data is lost during a reboot, and should be saved prior to rebooting. See column 1 line 59 – column 2 line 4. It would have been obvious to one of ordinary skill at the time the invention was made, to use Qureshi's teaches of saving state before rebooting with Tomita's update results in order to be sure that the update results are not lost during reboot as suggested by Qureshi. Further, Kedge teaches that display panels are useful for displaying status upon powering-up. See column 2 lines 55-59. It would have been obvious to one of ordinary skill at the time the invention was made, to use Kedge's teaching of status display with Tomita's status, in order to quickly control a large variety of status information as suggested by Kedge (see column 2 lines 13-19).

In regard to claim 38, the following rejection of claim 37 is incorporated. All further limitations have been addressed in the above rejection of claim 29.

23. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomita as applied to claim 33 above, and further in view of Qureshi.

In regard to claim 37, the above rejection of claim 33 is incorporated. All further limitations have been addressed in the above rejection of claim 29.


Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571)272-3703. The examiner can normally be reached on M-F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jdr


TUANDAM
SUPERVISORY PATENT EXAMINER